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593

Supervised MSc Theses

#	Thesis title	By	Date
1	Risk management in electricity market based on machine learning	Ava Geraily & Amirabolfazl Suratgar	September 2021
2	A Method for Non-Convex Distributed Optimization in Electricity Market (Case Study : Swedish Electricity Market)	Hossein Hesamzadeh & Amirabolfazl Suratgar	November 2020
3	Modeling of MT in cortex	Masume Hoseiny & Amirabolfazl Suratgar	September 2020
4	Dynamic Modeling And Control Of Soft Actuator for Hand Rehabilitation	Mohammad Hadi Namdar Ghalati & Amirabolfazl Suratgar	September 2020
5	Optimal Power Flow In Microgrids Using Distributed Non Convex Optimization Algorithm	Abolfazl Saadati Mogadam & Amirabolfazl Suratgar	June 2020
6	Distributed Optimization of Energy for Mobile Ad-hoc Networks	Saeed Hashempour & Amirabolfazl Suratgar	February 2020
7	Attack Tolerated Cyber Physical Systems to Specific Class of Hidden Optimal Attacks	Seyedehnegar Seyedmonir & Amirabolfazl Suratgar	February 2020
8	Dynamic modeling, speed control and build soft fish robot	Mehrdad Taheri & Amirabolfazl Suratgar	February 2020
9	Feasibility Study on Design and Fabrication of a Micro Winding	Seyed Sara Hosseini Pooya & Amirabolfazl Suratgar	January 2020

10	Modeling of Visula cortex V3 area using FMRI	Parsa Zhoolideh & Amirabolfazl Suratgar	October 2019
11	Control of a soft robot arm using a FEM-based model	Fateme Sharifi & Amirabolfazl Suratgar	August 2019
12	Voltage control of microgrid Usinf fuzzy model predictive control and its implementation	Naser Padar & Amirabolfazl Suratgar	July 2019
13	Design, modeling and fabrication of robot manipulator for cleaning of insulators	Amirhossein Asli & Amirabolfazl Suratgar	May 2019
14	Design modeling and implementation of mounting arm of insulator cleaning robot	Eshagh Arefnejad & Amirabolfazl Suratgar	March 2019
15	Modeling of behavior of V4 in visual cortex	Fatemeh Kamali & Amirabolfazl Suratgar	February 2019
16	increasing performance of ms disease diagnosis using mr1 and vital signs	Saba Heidari Gheshlaghi & Amirabolfazl Suratgar	February 2018
17	Modelling, simulation and intelligent control of power management of hybrid vehicle	Sahar Leisiazar & Amirabolfazl Suratgar	January 2018
18	pavement roughness measurement using a instrumentation	Mohammad Arbabpour Bidgoli & Amirabolfazl Suratgar	October 2017
19	design of a gas Detector sensor based on micro-electro -mechanical systems	Hasan Mahmodi Kia & Amirabolfazl Suratgar	October 2017
20	employing biological signals in rehabilitation procedure	Hamed Hosseini & Amirabolfazl Suratgar	October 2017
21	Frequency Control of Microgrids by Considering the Energy Storage System Presence	Alireza Ziroohi & Amirabolfazl Suratgar	July 2017
22	Controller Design for Hybrid Suspension Maglev Train	Milad Jalali & Amirabolfazl Suratgar	July 2017
23	Observer Desgin for Control of Suspension Part of Hybrid Maglev Train	Milad Behvandi & Amirabolfazl Suratgar	July 2017
24	: Optimal Switching Control for Energy Management in Hybrid Electric Vehicles	Reza Naseri & Amirabolfazl Suratgar	October 2016
25	Modelling and Energy Optimization of Capacitive MEMS Pressure Sensor for Biomedical	Mohammad Abbasi & Amirabolfazl Suratgar	September 2016
26	identification and optimal controller for polypropylene plant	Mahdiyar Jahani & Amirabolfazl Suratgar	July 2016
27	Fault Tolerant Control for Wind Turbine	Amir Tasdighi & Amirabolfazl Suratgar	February 2016
28	Multiple Model Control Approach for a Class of Wind Turbine	Ali Mardiha & Amirabolfazl Suratgar	February 2016
29	an insupervised computational system for diagosis and monitoring of multiple sclerosis	Moussa Mohsenpourian & Amirabolfazl Suratgar	February 2016
30	Design and Manufacturing of a Ballbot with Nonlinear Control Dealing With Changes of Surface Friction	Hossein Zabihi & Amirabolfazl Suratgar	February 2016
31	Design and Modeling of Micro Electromechanical Pressure Sensor Based on MEMS	Seied Ehsan Niafar & Amirabolfazl Suratgar	February 2016

32	Design and Manufacturing of a Ballbot with Nonlinear Control for Improving Stability against Disturbances	Mehdi Akbari & Amirabolfazl Suratgar	February 2016
33	Performance Improvement of z-Source Inverter Using Optimal Control	Payman Mohammadee & Amirabolfazl Suratgar	January 2016
34	Synchronization of Ensemble of G-Neurons based on Hybrid of Adaptive-Impulsive Control	Forouzan Vasheghani Farahani & Amirabolfazl Suratgar	September 2015
35	optimal Controller Design And Implementation for Unmanned Aerial Vehicle (Ducted Fan)	Meysam Rahimi & Amirabolfazl Suratgar	July 2015
36	designing of multi-agent control system for frequency control following independent networks	Samira Gholamalipoor Hend Khale & Amirabolfazl Suratgar	February 2015
37	study of Torque-Load relation by ultrasonic method	Ahmadreza Nooshinfar & Amirabolfazl Suratgar	February 2015
38	Electrical traction power system analysis and optimal control for improving its behavior	Amir Adibzade & Amirabolfazl Suratgar	February 2015
39	Optimal Control of VCO Used in MEMS Gyros	Atefeh Haji Mohamadi & Amirabolfazl Suratgar	February 2015
40	Performance Enhancement In Subjective Experiment On Robotic Assisted Beating Heart Surgery	Bahareh Aboutalebian & Amirabolfazl Suratgar	February 2015
41	Analysis & Modeling of Acoustic Resonator Mass Sensor and Characteristics Improvement	Kaveh Moghadam & Amirabolfazl Suratgar	February 2015
42	gyro measurement while drilling (gyro MWD)	Mohamad Shahbazi & Amirabolfazl Suratgar	February 2015
43	Optimizing power management strategies for rail way traction systems	Alireza Ebrahimi & Amirabolfazl Suratgar	January 2015
44	Population-based Modeling via Multi-agent Theory	Mohammad Mokhtari & Amirabolfazl Suratgar	October 2014
45	Interaction force control in robotic assistant endoscopic surgery	Mohamad Ali Soleimani & Amirabolfazl Suratgar	October 2014
46	Analysis and Modeling of MEMS Optical Switches and their Control	Mahsa Taheri & Amirabolfazl Suratgar	October 2014
47	leakage detection using sensor network and application in oil tanks&pipelines	Majid Ghods & Amirabolfazl Suratgar	September 2014
48	Control of MEMS vibratory gyroscope	Ehsan Ranjbar & Amirabolfazl Suratgar	February 2014
49	Fieldbus reliability improvement using reliability and leaf analysis	Sadegh Vosough & Amirabolfazl Suratgar	February 2014
50	Position control of a magnetic levitation train (Mglev)	Farhad Safaei & Amirabolfazl Suratgar	February 2014
51	Control of MEMS based voltage reference sources	Ali Mehrnezhad & Amirabolfazl Suratgar	February 2014
52	Estimation of intra-operative brain shift for surgery path correction	Mehran Shakarami & Amirabolfazl Suratgar	February 2014
53	Simultaneous optimization of energy consumption and train performances in electric railway systems	Mohammad Hossein Bigharaz & Amirabolfazl Suratgar	February 2014

54	design and testing of a pneumatic exciter of a two way beam	Mahdi Vahabi & Amirabolfazl Suratgar	January 2014
55	Control and monitoring of smart wells using sensor network	Mohsen Gheibi & Amirabolfazl Suratgar	November 2013
56	Design and implementation of an inspection robot for cold power transmisson lines	Mohsen Ahmadi & Amirabolfazl Suratgar	October 2013
57	Optimal or robust controller design and applying to a ducted fan UAV	Edalat Yousefi Mavi & Amirabolfazl Suratgar	September 2013
58	Design and implementation of rotating machinery condition monitoring system	Amin Ranjbar & Amirabolfazl Suratgar	February 2013
59	A new method to analyze the observability of a class of Fuzzy systems	Navid Dini & Amirabolfazl Suratgar	February 2013
60	Design and implementation of a control structure for the dual-user cooperative	Arefeh Golshan & Amirabolfazl Suratgar	February 2013
61	Modeling and Controller Design For A Swimming Mocrorobot	Donyasadat Mousavi & Amirabolfazl Suratgar	November 2012
62	Designing And Implementation Of A Controller For Transparency Improvement Of Teleoperation System In The Presence Of Data Loss	Ali Bakhshi & Amirabolfazl Suratgar	October 2012
63	Controllability Analysis of a Class of Fuzzy Systems	Seyedmehran Dibaji & Amirabolfazl Suratgar	February 2012
64	Design and Control of a MIS Telesurgeric robot based on haptioc feedback	Iman Sharifi & Amirabolfazl Suratgar	February 2012
65	Controller design for the microrobot suspended in Liquid environment with applications in pipes inspection	Alireza Ahangarani Farahani & Amirabolfazl Suratgar	February 2012

Journal Papers

Portal Records

- 1 Mohammad Reza Mahdiani, Ehsan Khamehchi, Amirabolfazl Suratgar, "Using linear–quadratic regulator to optimally control the gas lift operation", Arabian Journal of Geosciences, December 2020 Vol. 14, Num. 3, Page 1-19, December 2020,
- 2 Shadi Asgari, Hajar Atrianfar, Mohammad Ghasem Kazemi, Amirabolfazl Suratgar, "Robust Fault Detection of Lipschitz Nonlinear Switched Systems Considering Disturbance Attenuation Level and Lipschitz Constant Maximization", CIRCUITS SYSTEMS AND SIGNAL PROCESSING, November 2020 Vol. 0, Num. 0, Page 0-0, November 2020,
- 3 Ali Bakhshi, Alireza Alfi, Heidar Ali Talebi, Amirabolfazl Suratgar, M.Yousefi, "Stability Analysis and Performance Evaluation of Delayed Bilateral Telerobotic Systems over a Lossy Communication Channel", JOURNAL OF SYSTEMS SCIENCE & COMPLEXITY, November 2020 Vol. 0, Num. 0, Page 1-23, November 2020,
- 4 Ehsan Ranjbar, Yaghubi, Mostafa, Amirabolfazl Suratgar, "Robust adaptive sliding mode control of a MEMS tunable capacitor based on dead-zone method", AUTOMATIKA, August 2020 Vol. 61, Num. 4, Page 587-601, August 2020,
- 5 Ehsan Ranjbar, Mostafa Yaghoubi, Amirabolfazl Suratgar, "Adaptive Sliding Mode Controller Design for a Tunable Capacitor Susceptible to Unknown Upper-Bounded Uncertainties and Disturbance", Iranian Journal of Science & Technology, June 2020 Vol. 1, Num. 44, Page 327-346, June 2020,
- 6 Bahareh Aboutalebian, Heidar Ali Talebi, Sahar Etedali, Amirabolfazl Suratgar, "Adaptive control of teleoperation system based on nonlinear disturbance observer", EUROPEAN JOURNAL OF CONTROL, April 2020 Vol. 0, Num. 53, Page 109-116, April 2020,

- 7 Ehsan Ranjbar, Amirabolfazl Suratgar, "Design of an adaptive sliding mode controller with a sliding mode Luenberger observer for the MEMS capacitive plates", SN Applied Sciences, February 2020 Vol. 2, Num. 3, Page 351-358, February 2020,
- 8 Mehran Shakarami, Kasra Erfandiari, Amirabolfazl Suratgar, Heidar Ali Talebi, "Peaking Attenuation of High-Gain Observers Using Adaptive Techniques: State Estimation and Feedback Control", IEEE TRANSACTIONS ON AUTOMATIC CONTROL, January 2020 Vol. 1, Num. 1, Page 1-10, January 2020,
- 9 Fatemeh Kamali, Amirabolfazl Suratgar, Mohammad Bagher Menhaj, Reza Abbasi Asl, "Receptive Field Encoding Model for Dynamic Natural Vision", , December 2019 Vol. 1, Num. 4, Page 1-7, December 2019,
- 10 Mohammad Reza Mahdiani, Ehsan Khamnehchi, Amirabolfazl Suratgar, "A NEW TIME-DEPENDENT MODEL FOR CONTROLLING THE GAS INJECTION PRESSURE IN CONTINUOUS GAS LIFT", SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, December 2019 Vol. 38, Num. 1, Page 265-280, December 2019,
- 11 Bahareh Aboutalebian, Heidar Ali Talebi, Sahar Etedali, Amirabolfazl Suratgar, "Adaptive control of teleoperation system based on nonlinear disturbance observer", EUROPEAN JOURNAL OF CONTROL, October 2019 Vol. 0, Num. 0, Page 0-0, October 2019,
- 12 Mohammad Reza Mahdiani, Ehsan Khamnehchi, Amirabolfazl Suratgar, "Using modern heuristic algorithms for optimal control of a gas lifted field", JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING, September 2019 Vol. 183, Num. 4, Page 1-18, September 2019,
- 13 Amir Adibzadeh, Mohsen Zamani, Amirabolfazl Suratgar, Mohammad Bagher Menhaj, "CONSTRAINED OPTIMAL CONSENSUS IN DYNAMICAL NETWORKS", NUMERICAL ALGEBRA CONTROL AND OPTIMIZATION, September 2019 Vol. 9, Num. 3, Page 349-360, September 2019,
- 14 Mohammad Reza Mahdiani, Ehsan Khamnehchi, Amirabolfazl Suratgar, "Optimizing and Stabilizing the Gas Lift Operation by Controlling the Lift Gas Specific Gravity", Journal of petroleum Science and Technology, July 2019 Vol. 9, Num. 3, Page 46-63, July 2019,
- 15 Amir Adibzadeh, Amirabolfazl Suratgar, Mohammad Bagher Menhaj, Mohsen Zamani, "Distributed Optimization in Heterogeneous Dynamical Networks", IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY-TRANSACTIONS OF ELECTRICAL ENGINEERING, July 2019 Vol. 1, Num. 1, Page 0-0, July 2019,
- 16 Behzad Farzanegan, Seied Ehsan Niafar, Ehsan Ranjbar, Amirabolfazl Suratgar, "Two MRAC Designs for the MEMS Based AC Voltage Reference Source", IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY-TRANSACTIONS OF ELECTRICAL ENGINEERING, April 2019 Vol. 0, Num. 0, Page 1-12, April 2019,
- 17 Mohammad Hossein Bigharaz, S.Hossein Hosseini, Ahmad Afshar, Amirabolfazl Suratgar, Mehdi Amiri Dehcheshmeh, "A Comprehensive Simulator of AC to Transformer Electrified Traction System", International Journal of Power and Energy Conversion (IJPEC), January 2019 Vol. 10, Num. 2, Page 129-147, January 2019,
- 18 Amir Adibzadeh, Amirabolfazl Suratgar, Mohammad Bagher Menhaj, Mohsen Zamani, "Constrained optimal consensus in multi-agent systems with single- and double-integrator dynamics", INTERNATIONAL JOURNAL OF CONTROL, October 2018 Vol. 0, Num. 0, Page 1-10, October 2018,
- 19 Mehran Shakarami, Amirabolfazl Suratgar, Heidar Ali Talebi, "Intraoperative Brain Shift Estimation Using Atlas of Brain Deformations and Constrained Kalman Filter", IEEE TRANSACTIONS ON CONTROL SYSTEMS TECHNOLOGY, August 2018 Vol. 0, Num. 0, Page 1-10, August 2018,
- 20 Ehsan Ranjbar, Amirabolfazl Suratgar, "A Composite Adaptive Controller Design for 3-DOF MEMS Vibratory Gyroscopes Capable of Measuring Angular Velocity", IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY TRANSACTION A-SCIENCE, July 2018 Vol. 4, Num. 1, Page 1-22, July 2018,
- 21 Ehsan Ranjbar, Amirabolfazl Suratgar, "Design of a Composite Adaptive Controller For the Single-axis 2-DOF MEMS Vibratory Gyroscope with the Competency Of Rotation Rate Measurement", CONTROL ENGINEERING AND APPLIED INFORMATICS, April 2018 Vol. 20, Num. 3, Page 36-49, April 2018,
- 22 Mohammad Arbabpour Bidgoli, Amir Golroo, Ali Ghelmani Rashid Abad, Amirabolfazl Suratgar, Mohammadazam Khosravi, "Evaluating Pavement Roughness Based on Vibration Analysis Due to Road Health Monitoring System", , April 2018 Vol. 51, Num. 6, Page 1277-1296, April 2018,

- 23 Ehsan Ranjbar, Ali Mehrnezhad, Amirabolfazl Suratgar, "Adaptive Sliding Mode Control of MEMS AC Voltage Reference Source", *Journal of Control Science and Engineering*, December 2017 Vol. 15, Num. 2, Page 1-14, December 2017,
- 24 Sadegh Ghani Varzaneh, Mehrdad Abedi, Gevork B. Gharehpetian, Amirabolfazl Suratgar, "Enhancement of Output Power Smoothing and Transient Stability of DFIG-Based Wind Energy Conversion System Using Optimized Controllers Parameters", *ELECTRIC POWER COMPONENTS AND SYSTEMS*, July 2017 Vol. 45, Num. 7, Page 726-738, July 2017,
- 25 Jafar Tavousi, Amirabolfazl Suratgar, Mohammad Bagher Menhaj, "Stability Analysis of a Class of MIMO Recurrent Type-2 Fuzzy Systems", *INTERNATIONAL JOURNAL OF FUZZY SYSTEMS*, June 2016 Vol. 0, Num. 0, Page 1-14, June 2016,
- 26 Jafar Tavousi, Amirabolfazl Suratgar, Mohammad Bagher Menhaj, "nonlinear system identification based on a self-organizing type 2 fuzzy RBFN", *ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE*, May 2016 Vol. 54, Num. 0, Page 26-38, May 2016,
- 27 Jafar Tavousi, Amirabolfazl Suratgar, Mohammad Bagher Menhaj, "Stable ANFIS2 for Nonlinear System Identification", *NEUROCOMPUTING*, January 2016 Vol. 182, Num. 0, Page 235-246, January 2016,
- 28 Jafar Tavousi, Amirabolfazl Suratgar, Mohammad Bagher Menhaj, "Stability analysis of recurrent type-2 TSK fuzzy systems with nonlinear consequent par", *NEURAL COMPUTING & APPLICATIONS*, December 2015 Vol. 0, Num. 0, Page 1-10, December 2015,
- 29 Farhad Safaei, Amirabolfazl Suratgar, Ahmad Afshar, Mojtaba Agha-Mirsalim, "Characteristics Optimization of the Maglev Train Hybrid Suspension System Using Genetic Algorithm", *IEEE TRANSACTIONS ON ENERGY CONVERSION*, September 2015 Vol. 30, Num. 3, Page 1163-1170, September 2015,
- 30 Zahra Hajmahdi, Amin Ranjbar, Amirabolfazl Suratgar, Afshin Zarghi, "QSAR Study on Anti-HIV-1 Activity of 4-Oxo-1,4-dihydroquinoline and 4-Oxo-4H-pyrido[1,2-a]pyrimidine Derivatives Using SW-MLR, Artificial Neural Network and Filtering Methods", *IRANIAN JOURNAL OF PHARMACEUTICAL RESEARCH*, April 2015 Vol. 1, Num. 14, Page 69-75, April 2015,
- 31 Mehran Shakarami, Amirabolfazl Suratgar, Heidar Ali Talebi, "Estimation of Intra-operative Brain Shift Based on Constrained Kalman Filter", *ISA TRANSACTIONS*, November 2014 Vol. PP, Num. 3, Page 1-12, November 2014,
- 32 Leila Fallah Araghi, Amirabolfazl Suratgar, Esmail Feizi, "Global Uniform Asymptotic Stability of a class of switched linear systems with an Infinite Number of subsystem", *ABSTRACT AND APPLIED ANALYSIS*, May 2014 Vol. 1, Num. 5, Page 1-8, May 2014,
- 33 Afshin Mohammadi, Kaveh Moghadam, Meysam Rahimi, Amirabolfazl Suratgar, "PRESENTING A NOVEL PATH PLANNING ALGORITHM BASED ON A-STAR PATH PLANNING", *Indian Journal of Scientific Research*, May 2014 Vol. 2014, Num. 2, Page 310-313, May 2014,
- 34 Mohammad Abdolmaleki, Amirabolfazl Suratgar, Reza Sadeghi Sarabi, "QSAR analysis for antimicrobial activity of veratric acid derivatives using artificial neural network", *Der Pharma Chemica*, October 2013 Vol. 5, Num. 3, Page 104-111, October 2013,
- 35 L. F. Araghi, Amirabolfazl Suratgar, E. Feizi, "Stability of a class of switched linear systems with infinite number of subsystems", *CONTROL ENGINEERING AND APPLIED INFORMATICS*, October 2013 Vol. 15, Num. 3, Page 38-44, October 2013,
- 36 Navid Dini, Mohammad Bagher Menhaj, Amirabolfazl Suratgar, "On the Observability of a Class of Takagi-Sugeno Fuzzy Systems", *Journal of Basic and Applied Scientific Research*, July 2013 Vol. 3, Num. 7, Page 41-55, July 2013,
- 37 Abolghasem Babaei, Amirabolfazl Suratgar, Amir Hosein Salemi, "Dimension Estimation of Rectangular Crack Using Impedance Changes of the Eddy Current Probe with a Neural Network", *JOURNAL OF APPLIED RESEARCH AND TECHNOLOGY*, June 2013 Vol. 11, Num. 11, Page 397-401, June 2013,
- 38 Alireza Ahangarani Farahani, Amirabolfazl Suratgar, Heidar Ali Talebi, "Optimal Controller Design of Legless Piezo Capsbot Movement", *INTERNATIONAL JOURNAL OF ADVANCED ROBOTIC SYSTEMS*, September 2012 Vol. 10, Num. 0, Page 1-10, September 2012,
- 39 Seyedmehran Dibaji, Amirabolfazl Suratgar, "A New Simple Necessary Condition for Stability Analysis of Discrete Time LTI Systems with Uncertainty", *WULFENIA*, August 2012 Vol. 19, Num. 8, Page 196-203, August 2012,

- 40 Leila Fallah Araghi, Amirabolfazl Suratgar, Esmail Feizi, "Stability Analysis of Infinite Number of Discrete Time Switched Linear Systems", WULFENIA, August 2012 Vol. 19, Num. 8, Page 196-203, August 2012,
- 41 Amirabolfazl Suratgar, Farbod Setudeh, Masoud Dousti, "Design and Implementation of Optimal Nonlinear Control of Memristor Based Chua's Circuit", WULFENIA, August 2012 Vol. 19, Num. 8, Page 186-195, August 2012,
- 42 Amirabolfazl Suratgar, S. Rafiei, Avat Taherpour, A. Babaei, "Design of Qubit and Decoder in Quantum Computing Based on Spin Field Effect", JOURNAL OF APPLIED RESEARCH AND TECHNOLOGY, April 2012 Vol. 10, Num. 2, Page 152-161, April 2012,
- 43 Mohsen Bemani, Azim Fard, Amirabolfazl Suratgar, "Design of a 6 Bit Phase shifter Using HEMT Switch with neural network", Advances in Electrical Engineering systems, March 2012 Vol. 1, Num. 1, Page 71-73, March 2012,
- 44 Hamed Rezaee, Amirabolfazl Suratgar, Farzaneh Abdollahi, "Mathematical Modeling of HIVs' Proliferation Mechanism in a Body and Their Role in the Body Immune System Destruction", ANNALS OF BIOLOGICAL RESEARCH, June 2011 Vol. 2, Num. 4, Page 95-103, June 2011,
- 45 Amirabolfazl Suratgar, Malek Soleimani Mehranjani, H. Davoudzadeh, "FUZZY MODELING OF DIABETIC RAT BLOOD SUGAR TREATED BY CINNAMON", ANNALS OF BIOLOGICAL RESEARCH, June 2011 Vol. 4, Num. 2, Page 1-7, June 2011,
- 46 Samane Sadat Hashemipour, Amirabolfazl Suratgar, Hamid Hoseini, "Noise Effect Reduction on a MEMS Based AC Voltage Reference Source Using Artificial Neural Network", JOURNAL OF APPLIED RESEARCH AND TECHNOLOGY, April 2011 Vol. 9, Num. 1, Page 49-56, April 2011,
- 47 Mohammad Reza Arab, Amirabolfazl Suratgar, Alireza Rezaei Ashtiani, "Electroencephalogram signals processing for topographic brain mapping and epilepsies classification", COMPUTERS IN BIOLOGY AND MEDICINE, September 2010 Vol. 40, Num. 9, Page 733-739, September 2010,
- 48 Samane Sadat Hashemipour, Amirabolfazl Suratgar, Azim Fard, "Designing a Robust MEMS AC Voltage Reference Source Using Artificial Neural Network", Australian Journal of Basic and Applied Sciences, July 2010 Vol. 40, Num. 6, Page 1183-1189, July 2010,
- 49 Farhang Suratgar, Amirabolfazl Suratgar, Seyed Hamid Hashemi, "Fuzzy Modeling of Performance of Composite Soil Reinforced with Rice Straw", Australian Journal of Basic and Applied Sciences, June 2010 Vol. 4, Num. 6, Page 1264-1272, June 2010,
- 50 Mohammad Reza Arab, Amirabolfazl Suratgar, V.M. Martinez-Hernandez, Alireza Rezaei Ashtiani, "Electroencephalogram Signals Processing for the Diagnosis of Petit mal and Grand mal Epilepsies Using an Artificial Neural Network", JOURNAL OF APPLIED RESEARCH AND TECHNOLOGY, April 2010 Vol. 8, Num. 1, Page 120-129, April 2010,
- 51 Alireza Bahadorimehr, Amirabolfazl Suratgar, Hosein Sadeghi, "Capacitive MEMS accelerometer wide range modeling using artificial neural network", JOURNAL OF APPLIED RESEARCH AND TECHNOLOGY, August 2009 Vol. 7, Num. 2, Page 185-192, August 2009,
- 52 Mohssen Raouf, Amirabolfazl Suratgar, "Adaptive control of PLL using neural network", JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, February 2009 Vol. 346, Num. 1, Page 81-93, February 2009,
- 53 Mohammad Reza Arab, Amirabolfazl Suratgar, Alireza Rezaei Ashtiani, "Signals Processing for Diagnosis Petitmal and Grandmal Epilepsies Using Artificial Neural Network", , November 2008 Vol. 3, Num. 44, Page 89-95, November 2008,
- 54 Amirabolfazl Suratgar, S.Kamalaldin Yadavar Nikravesh, "Potential Energy Based Stability Analysis of Fuzzy Linguistic Systems", Iranian Journal of Fuzzy systems, November 2005 Vol. 2, Num. 1, Page 65-74, November 2005,

Conference Papers

Portal Records






- 1 Abolfazl Saadati Moghadam, Ehsan Ranjbar, Behzad Farzanegan, Amirabolfazl Suratgar, Mohammad Bagher Menhaj, "Observer-Based Sliding Mode Control for MEMS-based AC Voltage Reference Source ", The 28th Iranian Electrical Engineering Conference, August 2020
- 2 Fariba Moghaddam, Aldo Vaccari, Thomas Moniquet, Christophe Salzmann, Yves Pigué, Samer Saab, Rayana Jaafar, Amirabolfazl Suratgar, Qobad Shafiee, Hassane Alzouma Mayaki, Nomaou Dan Lamso, Hassan Ali Barkad, Hamadou Saliah Hassane, Denis Gillet, "Massive Open Online Labs (MOOLs): An Innovative Solution to Achieving SDGs in the Global South ", 5th Experiment at International Conference, June 2019
- 3 Ehsan Ranjbar, Reyhaneh Ghasab Sedehi, Mohammad Rashidi, Amirabolfazl Suratgar, "Design of an IoT-Based System for Smart Maintenance of Medical Equipment ", 3rd International Conference on Internet of Things and Applications (IoT), 2019, April 2019
- 4 Donyasadat Mousavi, Mohammad Hadi Namdar Ghalati, Mehrdad Taheri, Amirabolfazl Suratgar, "Design and Modeling of a Micro Swimming Robot Inspired By Jickin Fish ", 27th Annual International Conference on Mechanical Engineering, ISME2019, April 2019
- 5 Amirabolfazl Suratgar, Reza Naseri, Behzad Farzanegan, "Sliding Mode Control for an Optimal MEMS Micromirror Actuator with Parameter Uncertainty ", 2019 27th Iranian Conference on Electrical Engineering (ICEE), April 2019
- 6 Mehran Shakarami, Kasra Esfandiari, Amirabolfazl Suratgar, Heidar Ali Talebi, "On the Peaking Attenuation and Transient Response Improvement of High-Gain Observers ", 57th IEEE Conference on Decision and Control, December 2018
- 7 Abdulghafoor Salehzadeh Aghdam, Mohammad Bagher Menhaj, Amirabolfazl Suratgar, "Non-rigid Load Transportation by Multiple Quadrotors ", 2018 6th RSI International Conference on Robotics and Mechatronics (ICRoM) Pages 88-93, October 2018
- 8 Saba Heidari Gheshlaghi, Abolfaz Madani, Amirabolfazl Suratgar, Fardin Faraji, "Multiple Sclerosis Diagnosis with Fuzzy C-Means ", 5th International Conference on Artificial Intelligence & Applications (ARIA 2018), January 2018
- 9 Amir Adibzadeh, Mohsen Zamani, Amirabolfazl Suratgar, Mohammad Bagher Menhaj, "Distributed convex optimization in networks of agents with single-integrator dynamics ", 2017 11th Asian control conference (ASCC), December 2017
- 10 Mohammad Arbabbpour Bidgoli, Ali Ghelmani Rashid Abad, Mohammadreza Ganji, Amir Golroo, Amirabolfazl Suratgar, "Providing a new and cost effective system for monitoring the pavement roughness ", 9th Bitumen and Asphalt Conference, October 2017
- 11 Hossein Zabihi, Heidar Ali Talebi, Amirabolfazl Suratgar, "Open-Loop Trajectory Planning and Nonlinear Control for Underactuated Spherical Wheel Mobile Robot (Ballbot) ", 24th Iranian Conference on Electrical Engineering (ICEE2016), May 2016
- 12 Mahdiyar Jahani, Amirabolfazl Suratgar, "Polypropylene melt index prediction with Genetic algorithm and neural network ", International Conference on New Research Achievements in Electrical and Computer Engineering, May 2016
- 13 Mohammadali Soleimani, Keyvan Mohammadi, Heidar Ali Talebi, Amirabolfazl Suratgar, "Impedance Control Realization of Screw Stiffness Matrix in Virtual Fixtures ", The 4th International Conference on Control, Instrumentation, and Automation 2016, January 2016
- 14 Amir Adibzadeh, Amirabolfazl Suratgar, Mohammad Bagher Menhaj, "Optimization of consensus in high order heterogeneous linear multi agent systems ", The 4th conference on control, instrumentation, and automation, January 2016
- 15 Ayoub Abdoli, Amirabolfazl Suratgar, Mohammad Bagher Menhaj, Seyed Hossein Taghavi, "Neuro-Fuzzy Adaptive Kalman Filtering for INS/GPS Integration ", The 4th Conference on Control, Instrumentation and Automation, January 2016
- 16 Forouzan Vasheghani Farahani, Iman Sharifi, Mohammad Bagher Menhaj, Amirabolfazl Suratgar, "Synchronization of two Hindmarsh-Rose neurons with unknown parameters through adaptive output feedback controller ", 2016 4th International Conference on Control, Instrumentation, and Automation (ICCIA), January 2016
- 17 Bahareh Aboutalebian, Heidar Ali Talebi, Amirabolfazl Suratgar, "Nonlinear Disturbance Observer Based Adaptive Control for Nonlinear Teleoperation Systems ", The 3rd International Conference on Robotics and Mechatronics (ICROM 2015), October 2015

- 18 Meysam Rahimi, Amirabolfazl Suratgar, Firooz Bakhtiari Nejad, "Design of Fuzzy Adaptive controller for a ducted fan (UAV ", International conference on nonlinear models and optimization ,computer and electrical Engineering, May 2015
- 19 Meysam Rahimi, Amirabolfazl Suratgar, Firooz Bakhtiari Nejad, "Design of a Fuzzy Adaptive Controller for a Ducted Fan UAV ", Inter national conference on non-linear models and optimazition,computer and electrical engineering, May 2015
- 20 Behzad Farzanegan, Seied Ehsan Niafar, Amirabolfazl Suratgar, "Adaptive model reference controller design for MEMS based Ac reference Source ", 23rd Iranian Conference on electrical engineering, May 2015
- 21 Meysam Rahimi, Amirabolfazl Suratgar, Firooz Bakhtiari Nejad, Behrad Rouzbeh, "Nonlinear control path VTOL unmanned flying at low speeds ", Second National Conference on Applied Research in Electrical, Mechanical and Mechatronic, February 2015
- 22 Mohamad Shahbazi, Amirabolfazl Suratgar, Masoud Shafiee, "location of drill Based on inertial guidance in horizontal drilling ", اولين کنفرانس ملی نفت , گاز , پتروشیمی و توسعه پایدار , January 2015
- 23 Meysam Rahimi, Amirabolfazl Suratgar, Firooz Bakhtiari Nejad, Edalat Yousefi Mavi, "Fuzzy controller design for flying unmanned VTOL (ducted fan ", First conference in civil and electrical and mechanical engineering development, December 2014
- 24 Kaveh Moghadam, Amirabolfazl Suratgar, Farshad Barazandeh, "Analysis & Modeling of Film Bulk Acoustic Resonator (FBAR) Mass Sensor ", 1st National of Civil engineering Architecture, Electricity AND Mechanical in IRAN, December 2014
- 25 Kaveh Moghadam, Amirabolfazl Suratgar, Farshad Barazandeh, "analysis & modeling of film bulk acoustic resonator (fbar) mass sensor ", First conference of developments in civil electrical and mechanical engineering, December 2014
- 26 Meysam Rahimi, Amirabolfazl Suratgar, Firooz Bakhtiari Nejad, Edalat Yousefi Mavi, "Fuzzy controller design for bird called VTOL unmanned Duct Fan ", 1st national conference on development of civil engineering ,architecture,electricity and mechanical in iran, December 2014
- 27 زهرا شبانی , مسعود دوستی , Amirabolfazl Suratgar, "A novel CMOS tunable transversal active filter adaptable to temperature variations and circuit elements tolerance ", third international conference on advance in circuits , electronics and microelectronics, December 2014
- 28 Majid Ghods, Amirabolfazl Suratgar, S.Mehdi Rezaei, "Reliability enhancement of the sensor network in detection of leakage at petroleum storage tank by optimization of inner loops ", 3rd conference on information technology and communication in oil and gas and petrochemical industry, December 2014
- 29 Mohammadali Soleimani, Iman Sharifi, Heidar Ali Talebi, Amirabolfazl Suratgar, Fateme Kochaki Ghermezcheshme, "Forbidden Region Virtual Fixture for Nonlinear Teleoperation Systems with Variable Time Delays ", The Second International Conference on Robotics and Mechatronics ICRoM 2014, October 2014
- 30 Alireza Ahangarani Farahani, Amirabolfazl Suratgar, Heidar Ali Talebi, "Dynamics Model and Adaptive Control of Underwater Fish-Like Micro Mobile Robot with PZT Actuator ", The 2nd ICRoM International Conference on Robotics and Mechatronics (ICRoM 2014), October 2014
- 31 Ehsan Ranjbar, Ali Mehrnezhad, Amirabolfazl Suratgar, Saeed Khatami, "Adaptive control of MEMS based AC voltage Reference source ", ICEE2014, May 2014
- 32 Afshin Mohammadi, Meysam Rahimi, Amirabolfazl Suratgar, "A NEW PATH PLANNING AND OBSTACLE AVOIDANCE ALGORITHM IN DYNAMIC ENVIRONMENT ", THE 22 IRANIAN CONFERENCE ON ELECTRICAL ENGINEERING ICEE 2014, May 2014
- 33 Ali Aghighi Tale, Amirabolfazl Suratgar, K. Khorshidi, "A new Analytical model for MEMS pressure sensor and parasitic capasitor ", ICMEMS2014, February 2014
- 34 Sadegh Vosough, Amirabolfazl Suratgar, Heidar Ali Talebi, Mohammad Ali Javaheri Koopae, "Reliability Increasing in Foundation fieldbus network Using Leaf structure with inner loops ", irec2014, February 2014
- 35 Ehsan Ranjbar, Amirabolfazl Suratgar, "Functionality and Modeling of a 3-DOF Triaxial MEMS Vibratory Gyroscope ", 1st Intenational Conference on MEMS and Microfabrication, Amirkabir University of Technology, Tehran, Iran, 2014, February 2014

- 36 Afshin Mohammadi, Meysam Rahimi, Amirabolfazl Suratgar, "presenting a novel path planning algorithm based on a star path planning ", NATIONAL CONFERENCE ON MECHANICAL ENGINEERING OF IRAN (NCMEI, February 2014
- 37 Mahdi Vahabi, Firooz Bakhtiari Nejad, Amirabolfazl Suratgar, "Design and Production of a Tow Sided Pneumatic Beam Exciter ", 3rd International Conference on Acoustics and Vibration, December 2013
- 38 Mohsen Gheibi, Azad Mirzaee, Heidar Ali Talebi, Amirabolfazl Suratgar, "Gas-Oil ratio Self Tuning Controller in Gas Lift System ", The 3rd International Conference on Control, Instrumentation, and Automation, December 2013
- 39 Ehsan Ranjbar, Amirabolfazl Suratgar, "Compensation for Cross-coupling Error in a 2-DOF MEMS Vibratory Gyroscope via Designing a State Feedback Controller ", 3rd International Conference on Acoustics and Vibration, December 2013
- 40 Ehsan Ranjbar, Amirabolfazl Suratgar, "Fundamentals and Detailed Modeling of the 2-DOF MEMS Vibratory Gyroscope ", 3rd International Conference on Acoustics and Vibration, K. N. Toosi University of Technology, Tehran, Iran, 2013, December 2013
- 41 Ehsan Ranjbar, Amirabolfazl Suratgar, "Design of an Adaptive Controller for a 2-DOF MEMS Vibratory Gyroscope to Obtain Perfect Tracking and Angular Velocity Estimation with Noise, Disturbance and Parameter Variation Analysis ", 3rd International Conference on Control, Instrumentation, and Automation, December 2013
- 42 Ehsan Ranjbar, Amirabolfazl Suratgar, "Design of a Quadratic Linear Tracking Controller to Minimize Battery Power Consumption of a 2-DOF MEMS Vibratory Gyroscope ", 3rd International Conference on Control, Instrumentation, and Automation, Amirkabir University of Technology, Tehran, Iran, 2013, December 2013
- 43 Solmaz Babayi, Saeede Nazari Goldar, Amirabolfazl Suratgar, Ali Mohammadi, "Fuzzy Membership Function Optimization Using ABC Algorithm-Application on Robotic Systems ", 13th Iranian conference on fuzzy systems, August 2013
- 44 Amin Ranjbar, Amirarsalan Jalilzolfaghari, Amirabolfazl Suratgar, Mehrdad Khajavi, "Alternator Fault Detection Using Wigner-Ville Distribution ", 19th International Conference on Control Systems and Computer Science Engineering, May 2013
- 45 Ali Mehrnezhad, Amirabolfazl Suratgar, Saeed Khatami, Sima Sobhiyeh, "A Mathematical Dynamic Model of Static and Dynamic Behaviour of MEMS-based AC Voltage Reference Source ", 21st Iranian Conference on Electrical Engineering (ICEE2013), May 2013
- 46 Farhad Safaei, Amirabolfazl Suratgar, Ahmad Afshar, "Maglev Vehicle/Guideway Interaction Model Considering Air gap Optimal Control ", 3rd international Conference on Recent Advances in Railway Engineering (ICRARE2013), April 2013
- 47 Alireza Ahangarani Farahani, Amirabolfazl Suratgar, Heidar Ali Talebi, "Dynamics Model and Control of Underwater Fish-Like Micro Mobile Robot with PZT Actuator ", The 2013 RSI/ISM International Conference on Robotics and Mechatronics, February 2013
- 48 Iman Sharifi, Heidar Ali Talebi, Amirabolfazl Suratgar, "A Position Driftless, Modified Wave Variable Scheme for Time Varying Delayed Tele-surgical System ", System, Control Engineering and Biomedical Sciences Symposium, December 2012
- 49 Iman Sharifi, Amirabolfazl Suratgar, Heidar Ali Talebi, "A Novel Approach for Optimization Based on Wild Dog Hunting(WDH) ", System, Control Engineering and Biomedical Sciences Symposium, December 2012
- 50 Hamed Hashemi Dezaki, Yahya Kabiri Renani, Amirabolfazl Suratgar, Hossein Askarian Abyaneh, "Reliability Optimization of Distribution Network Using Internal Loops ", 17th Electric Power Distribution Conference 2012, May 2012
- 51 پرستو نودری, Amirabolfazl Suratgar, نورالله موسوی, کوروش خورشیدی, "Designing of optimum silicon piezo resistive micro cantilever of flow meters using genetic algorithm ", (Electrical engineering (ICEE, December 2011
- 52 Shahram Behmardi Kalantari, Alireza Ahangarani Farahani, Ali Mohammadi, Mohammad Bagher Menhaj, Amirabolfazl Suratgar, Heidar Ali Talebi, "Hybrid Model Predictive Control of Legless Piezo Capsbot ", The 2nd International Conference on Control, Instrumentation and Automation, December 2011
- 53 مهدی خسروی, Amirabolfazl Suratgar, "A model of optical micro electromechanical pressure sensor using artificial neural networks ", 19th Iranian conference on electrical engineering, December 2011

- 54 Alireza Ahangarani Farahani, Amirabolfazl Suratgar, Heidar Ali Talebi, "Optimal Control of Legless Piezo Capsbot ", The 2nd International Conference on Control, Instrumentation and Automation, December 2011
- 55 Iman Sharifi, Heidar Ali Talebi, Amirabolfazl Suratgar, Hamed Ghafarirad, "A position Driftless, Modified Wave Variable Scheme for Time Varying Delayed Teleoperation System ", The 2nd International Conference on Control, Instrumentation and Automation, December 2011
- 56 Amin Imani, Mohsen Bahrami, Amirabolfazl Suratgar, "Fuzzy Sliding Mode Control for Spacecraft Formation Flying ", 2011 World Congress on Engineering and Technology - CET2011, October 2011
- 57 Amirabolfazl Suratgar, هاشمی پور , حسینی, "Noise effect reduction on a MEMS-based AC voltage reference source using artificial neural network ", 2nd IEEE International conference on computer science and information technology, July 2009
- 58 مهرداد نوری خاجوی طهرانی , Mohammad Bagher Menhaj, Amirabolfazl Suratgar, "A neural network controller for load following operation of nuclear reactors ", International joint conference on neural networks, March 2002

Taught Courses

#	Course title	Description	Headlines	Date
1	Linear Control Systems	Introduction to Analysis and control of Linear systems		Fall 2021
2	Optimal Control Systems	Introduction to optimal control		Spring 2021
3	Linear Control Systems	Introduction to Analysis and control of Linear systems		Spring 2021
4	Linear Control Systems	Introduction to Analysis and control of Linear systems		Fall 2020
5	Control Mechatronics Systems	introduction to mathematical modeling and control of mechatronic systems		Fall 2020

Inventions/Patents

#	Invention title	Reg. number	Country	contributors	Reg. date	Exp. date
1	Hybrid Maglev for Train	96964			2018/10/1	2038/01/19
2	Oil Tankage System High Efficiency Leakage Detection Using Leaf Method	95545			2018/04/1	2034/08/1
3	Level Transmitter for oil Tanks Based on opto-rotation method	84715			2015/01/1	2034/06/1
4	Amblyopia Treatment Using optical penalization	82738			2014/04/1	2033/11/1